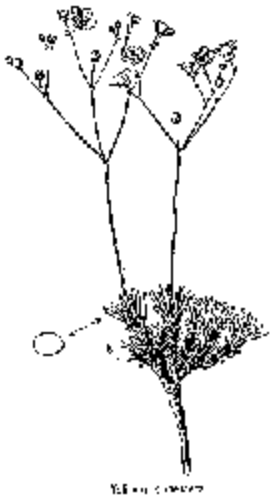
ANNUAL BOTANY REPORT
FISCAL YEAR 1998

Prineville District
Bureau of Land Management



I. STAFFING

Ron Halvorson (NRS-PFT), Gail Smith (NTE Biotech)

II. MAJOR ACCOMPLISHMENTS

A. INVENTORY/NEW POPULATIONS FOUND

A total of 1,380 acres of inventory for *Talinum spinescens* was completed in FY 1998. This occurred on the Tenmile portion of the Criterion Acquisition where two new populations were found in typical stiff sagebrush scabland.

Through project clearance, monitoring and/or other work, 23 populations of special status plants or other plants of interest were found. This includes populations of *Astragalus peckii* (1 population), *Astragalus tyghensis* (1), *Castilleja chlorotica* (2), *Calochortus longebarbatus* var. *peckii* (1), *Juncus torreyi* (4), *Mimulus jungermannioides* (11), *Pediocactus simpsonii* var. *robustior* (1) and *Thelypodium eucosmum* (1).

The new population of *Astragalus tyghensis* was found in the Criterion Acquisition during Ecological Site Inventory, bringing the total number of new populations in this area to four.

All the *Mimulus jungermannioides* populations were found as a result of a raft trip down the Lower John Day River. Gail (why did she get to go?) documented these along the river on vertical basalt walls, all but one of which are only accessible by boat. She also found three populations of *Juncus torreyi* during this trip.

B. MONITORING

A total of 36 monitoring visits were made to a total of 33 populations. These included *Astragalus diaphanus* var. *diurnus* (4 populations), *Astragalus peckii* (8), *Astragalus tyghensis* (3), *Castilleja chlorotica* (1), *Lomatium ochocense* (1), *Mimulus jungermannioides* (1) and *Thelypodium eucosmum* (15).

Astragalus diaphanus var. *diurnus* continues to be secure. Minor problems were noticed with cattle trailing through and congregating near a population, but this will be dealt with prior to next year's turnout.

Astragalus peckii on BLM land seems to continue to benefit by development on private land and by the increased diligence of BLM staffers which is reducing rogue OHV use in the Urban Interface area. A population of *Astragalus peckii* was grazed for the first time in several years (tentative plans are to remove grazing when the permit expires), but no damage was noted.

Some populations of *Astragalus tyghensis* near the White River seem to be vulnerable to disturbance. One population was hand weeded (spotted knapweed) for the second year in a row and trash

was removed from another which suffered the consequences of illegal dumping. As long as we can methodically visit these areas the potential problems should remain under control.

One population of *Castilleja chlorotica* was monitored to determine approximate phenology. This relates to an effort to change a grazing scheme to provide protection to *Castilleja chlorotica* during its critical growing period.

Lomatium ochocense was monitored for the third consecutive year in cooperation with the Forest Service. As reported last year, the plants appear to be secure.

Since BLM is the major Federal landowner related to *Thelypodium eucosmum*, we continue to monitor as we are able. All populations monitored appear to be secure and thriving with the moisture we experienced this year. It was interesting to note that a few plants were observed flowering with flower stems still attached from 1997. This proves that the plant can exist as a short-lived perennial.

III. OTHER WORK

A. NATURAL AREA MANAGEMENT

One year of the permit system for The Island ACEC/RNA is officially under our belt. For calendar year 1998 (recognizing that the year is not quite through), the natural area received 89 visits. This compares to 384 in 1997 and 584 in 1996. The Tam-a-lau trail, constructed as an alternative route, has received over 1,500 visits so far this year. The system seems to be working with minimal complaints from the public and a high level of cooperation and support from Cove Palisades State Park.

The Island also received its annual weed treatment courtesy of the High Desert Chapter of NPSO. A group of sixteen hand-pulled medusahead as we have for the last several years. It appears (maybe it's wishful thinking) that we are beginning to get the upper hand on this obnoxious annual.

Benjamin and Powell Butte ACEC/RNAs were both utilized as part of a university research study trying to determine the causes of western juniper expansion. This current year's research was funded by a NSF grant and built upon a challenge cost share project funded by BLM in 1997.

C. CLEARANCES

A total of 22 field clearances were completed encompassing 5,986 acres. These included juniper thinning projects, prescribed fire, emergency fire rehab, timber sales, spring developments, OHV trails, wildlife guzzlers, rights-of-way and land transfers.

Castilleja chlorotica, a special status species, was located in the Horse Ridge ACEC/RNA. It is interesting to note that Gail found this plant during a defensibility monitoring trip early in the season. She saw a *Castilleja* sp., but it was too early to identify. Using the PLGR GPS unit, she marked the location, and then easily returned to the exact spot later in the season when the plant was flowering for positive ID.

B. CHALLENGE COST SHARE/ COOPERATIVE EFFORTS/OUTREACH

Three challenge cost share projects were funded during FY 1998. The first was the eighth year of a long-term demographic monitoring study of *Astragalus tyghensis* conducted by Oregon Dept. of Agriculture. The study area includes lands near the White River, in north-central Oregon. The second was a continuation of BLM support for medusahead research at the Lawrence Memorial Grassland, a TNC (The Nature Conservancy) preserve near Shaniko. TNC has used combinations of burning, seeding and herbicide application, with various timings and intensities, to try to control medusahead grass and to restore the native bunchgrass vegetation. The third

was the first year of a projected five-year study to determine the effects of various disturbances on *Botrychium pumicola*, a species endemic to the lodgepole pine pumice zone near La Pine. Results of all three projects are pending.

The *Orobanche* researcher from Vanderbilt University was ecstatic when we contacted her concerning real, live, respirating *Orobanche corymbosa* on BLM land near Mitchell. She was so excited that she loaded up her equipment and was on site within a couple of days to conduct *in vivo* measurements. She had never seen any live plants before and was beyond pumped. Funny how it doesn't take much to excite botanists. Results are pending, but it looks like *Orobanche corymbosa* does not photosynthesize, consistent with its lack of chlorophyll.

Specimens of *Zigadenus venenosus* were collected and shipped to another research scientist in the South for a molecular study she was doing. We had also hoped to collect *Z. paniculatus* and *Z. elegans* but didn't come across any in flowering.

Two days were spent with people from NPSO and the Deschutes NF compiling species lists for the Oregon Plant Atlas Project.

Ron took a high school biology class on a field trip through the Madras-Ashwood-Mitchell area, looking at the dominant plant communities and endemic species of this portion of the state.

Assistance was given to TNC related to species occurrence, aerial photos/map and other resource issues during the early planning/inventory stage for their newly-acquired Juniper Hills Preserve, east of Prineville.

C. OTHER PROGRAM SUPPORT

Botanical input continues to be provided to all resource management programs as needed, especially as related to the range, wildlife and forestry programs. Prescribed fire has become a large program in the district, and while fire is compatible with most plants, it has been shown to be detrimental to *Castilleja chlorotica*. Botany worked with fire management and wildlife to avoid *Castilleja chlorotica* during a recent prescribed fire on Horse Ridge (outside the natural area). Botany also assisted with plant identification, as needed, in support of an ecological site inventory of the Criterion Acquisition and Gail spent several days assisting with monitoring along the Lower John Day River. Continual input is required for allotment evaluations, wild and scenic river plans, OHV plans and the like. Ron took the lead in developing a draft monitoring plan for the Millican OHV Area.

D. ATTENDANCE AT TRAINING/CONFERENCES

Gail attended an intensive PLGR training in Salem and has become a certified district expert in the use of Ralph. As a result, she conducted training for interested district personnel and the PLGRs are finding their niche in various district programs.

Ron attended the T/E Species Management course in Eugene.

E. OTHER ITEMS OF INTEREST

Finally, after several years of starts and stops, BLM has acquired the parcel on Mill Creek Ridge (near Hood River) containing *Ranunculus reconditis*. TNC originally acquired this parcel with the understanding BLM would pursue exchange, but given other land exchanges in the district, it was somewhat of a low priority. With the Criterion land exchange came the opportunity to acquire this parcel to help balance the books. *Ranunculus reconditis* is presently listed as Endangered in Oregon.

All in all it was a good year with the wet spring resulting in good flowering and plant vigor. The Prineville Flood disrupted the normally smooth flow of our program, but we are all thankful it didn't do more damage to Prineville than it did.

IV. GEOAREA STATISTICS

High Desert

4 botanical waivers
4,288 acres botanical clearance (juniper thinning, prescribed fire, forest treatments)
3 new populations found (*Castilleja chlorotica* - 2; *Calochortus longebarbatus* var. *peckii* - 1)
2 populations monitored (*Castilleja chlorotica* - 1; *Lomatium ochocense* - 1)

Lower Deschutes

2 botanical waivers
3 new populations found (*Astragalus tyghensis* - 1; *Talinum spinescens* - 2)
3 populations monitored (*Astragalus tyghensis* - 3)
1,380 acres inventory (*Talinum spinescens*)

Lower John Day

4 botanical waivers
320 acres botanical clearance (fences, emergency fire rehab, spring development)
16 new populations found (*Juncus torreyi* - 3; *Mimulus jungermannioides* - 11; *Pediocactus simpsonii* var. *robustior* - 1; *Thelypodium eucosmum* - 1)
15 populations monitored (*Thelypodium eucosmum* - 15)

Upper Deschutes

7 botanical waivers
913 acres botanical clearance (ROWs, OHV trails, firewood area)
1 new population found (*Astragalus peckii*)
8 populations monitored (*Astragalus peckii*)

Upper John Day

2 botanical waivers
465 acres botanical clearance (timber mgt. plan, juniper control, guzzler, land transfer)
4 populations monitored (*Astragalus diaphanus* var. *diurnus*)